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ABSTRACT

Demographic trends, technological change, and increased international competition are creating shortages of skilled workers and an excess of unskilled workers. In response to this growing crisis, the Commission on Workforce Quality and Labor Market Efficiency made 44 recommendations for a substantial, ongoing national commitment to investment in human resources. The recommendations center on three themes: (1) incentives to improve student motivation and achievement; (2) public and private investments in lifetime education and training; and (3) more efficient use of workers' existing skills. Specific recommendations include the following: presidential leadership in the development of national goals and timetables; school/business efforts to help students meet the educational standards necessary for labor market success; inclusion of transcripts and achievement test scores in employer evaluations of job applicants; incentives for teachers, administrators, and school districts; experimental school restructuring; corporate tax credits for education and training; income tax exemptions for employer-provided education and training benefits; increased funding of the Job Training Partnership Act and for postsecondary training grants; a Cabinet-level committee for human resource policy; federal support of community-based child care resource and referral agencies; increased subsidy of child care expenses; flexible employment arrangements; performance standards for public employment service; sensitivity of immigration policy to labor market needs; innovative approaches to labor-management relations; and increased funding for the collection of labor statistics, evaluations of human resource programs, and studies of best employment practices. (SK)

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INVESTING IN PEOPLE

A Strategy to Address America's Workforce Crisis

Commission on Workforce Quality and Labor Market Efficiency

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We gratefully acknowledge the opportunity to share our main title with Investing in People: The Economics of Population Quality *(1981) by Theodore W. Schultz. It is our pleasure to share a title with this distinguished scholar who has made such a major contribution to the analysis of investments in human capital.*

INVESTING IN PEOPLE

A Strategy to Address America's Workforce Crisis

A Report to the Secretary of Labor and
the American People

Commission on Workforce Quality
and Labor Market Efficiency

U.S. Department of Labor
Washington, D.C. Labor Day 1989

CONTENTS

Letter of Transmittal ii

Members of the Commission on Workforce Quality and Labor Market Efficiency iv

Executive Summary vii

Introduction 1
Chapter 1: *The Foundation of Workforce Quality* 7
Chapter 2: *Lifetime Education and Training* 15
Chapter 3: *Putting Quality to Work* 25
Chapter 4: *Understanding the Workforce* 35

Appendices
Appendix 1: Commission Calendar 41
Appendix 2: Commission Charter 42
Appendix 3: Background Papers 43
Appendix 4: Public Hearings 47
Appendix 5: Outreach Program 57
Appendix 6: Commission Staff 60

Ordering Information 61

LETTER OF TRANSMITTAL

Labor Day 1989

The Honorable Elizabeth Dole
Secretary of Labor
U.S. Department of Labor
Washington, DC 20210

Dear Madam Secretary:

The Commission on Workforce Quality and Labor Market Efficiency was established on July 11, 1988, with the charge to make specific recommendations by September 1989, on ways to increase the excellence of the American workforce. On behalf of the Commission, it is my pleasure to submit our report, *Investing in People: A Strategy to Address America's Workforce Crisis.*

At the beginning of the Commission's work, we had hoped to identify two or three major initiatives that might produce immediate, significant improvements in workforce quality. We have since learned that there are no simple, easy solutions. Rather, we have identified a need for action on many fronts, action that will require the close cooperation of business, labor, and government at all levels.

Our concern for workforce quality has led us to recommend incentives to inspire greater student achievement. We have asked the business community to help by relating career opportunity to school performance and by supporting incentive programs for improved performance by teachers and schools.

We have also made recommendations to establish an environment that encourages employer investments in workforce quality. To complement these initiatives, government is urged to provide education and training programs that address needs unlikely to be met by the private sector.

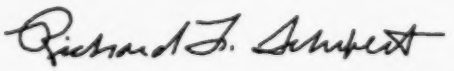
To enhance the efficiency with which the workforce is employed, we have proposed ways to create more flexible working arrangements, to facilitate the matching of workers with jobs, and to increase productivity through employee relations innovations.

While our nation's workforce problems may seem daunting, they are not beyond solution. If we care enough, if we are willing to commit ourselves to doing that which is necessary, America can experience a rebirth of productivity, competitiveness, and family well-being. If our commitment falls short, however, it will surely be impossible to maintain our standard of living or our position as a leader of nations.

On behalf of the Commissioners, I would like to acknowledge the splendid contributions of our staff. Led by Dr. David L. Crawford and Dr. Laurie J. Bassi, this outstanding team made our year's work effective, efficient, and very enjoyable.

Finally, all the Commissioners thank you for supporting our efforts while assuring our continued independence as a bipartisan Commission. We wish you great success in your leadership of the national discussion of our recommendations.

Respectfully,



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EXECUTIVE SUMMARY

In 1987, *Workforce 2000* warned the nation that a crisis of workforce quality was at hand, a crisis that would threaten the very foundations of the American economy. Today, demographic trends, technological change, and increased international competition already are creating shortages of skilled workers and an excess of unskilled workers, problems that are likely to worsen in the years ahead.

In *Investing in People*, the Commission on Workforce Quality and Labor Market Efficiency offers its response to the challenges posed by *Workforce 2000*. The Commission calls for:

A public/private partnership under the leadership of the Secretary of Labor.

Additional human capital investments by states, communities, individuals, and American business.

A reallocation of federal human resource expenditures.

A sustained increase in federal expenditures on human resource programs.

These initiatives are essential if America is to resolve its workforce crisis. Without them, America's workforce will be undereducated, undertrained, and ill-equipped to compete in the twenty-first century.

1. THE FOUNDATION OF WORKFORCE QUALITY

Vast numbers of American students cannot meet the educational requirements of today's workplace, much less those of the next century. The Commission believes that this lack of achievement stems in large part from the lack of incentives for effort and achievement in school. Only a handful of the best college-bound students strive to meet the rigorous entry standards of the most selective universities, while for all others, a high-school diploma seems sufficient to secure access to post-secondary education. Most of those bound directly for the workplace know that the quality of their school work and the grades they receive will have little effect on their immediate employment prospects and virtually no effect on their entry-level wage rate. The Commission recommends:

Presidential leadership in the development of specific national education goals and timetables.

Continued efforts by the business community to work with schools to help students understand and meet the educational standards that are required for labor market success.

Strengthening the relationship between school and work by making high-school transcripts and national achievement test scores integral parts of employers' evaluations of job applicants.

The prospects for greater student effort and achievement will be improved if student incentives are accompanied by incentives for improving the quality of instruction. The Commission recommends:

Creation of incentives to inspire the best efforts of teachers, administrators, and school districts.

Encouragement of experimental restructuring of schools.

2. LIFETIME EDUCATION AND TRAINING

America must develop a coherent system of lifetime education and training. As a first step, it is essential to create a business environment that encourages employers to invest more in their workers. The Commission recommends:

A corporate income tax credit for education and training expenses.

A personal income tax exemption for all employer-provided education and training benefits.

Encouragement of multi-employer training programs.

Government programs that serve the least skilled and most disadvantaged individuals are the other essential part of a coherent system of lifetime education and training. The Commission recommends:

Renewed national commitment to basic skills education for adults.

Sharpened focus of the Job Training Partnership Act (JTPA) on those most in need of training.

Increased funding of JTPA.

Increased funding for grants for post-secondary training and education.

Establishment of a Cabinet-level committee to coordinate human resource policy.

3. PUTTING QUALITY TO WORK

America faces labor shortages requiring the most efficient use of the skills that already exist within the population. Tensions between work and family responsibilities prevent some individuals from full labor market participation. The Commission recommends:

Federal support of community-based child care resource and referral organizations.

Increased subsidy of the child care expenses of low-income working families.

Encouragement of flexible employment arrangements such as flextime and part-time work.

Additional initiatives can facilitate the matching of job seekers with job vacancies. The Commission recommends:

Establishment of performance standards for the public employment service.

Increased "experience rating" of the unemployment insurance system.

Increased sensitivity of U.S. immigration policy to labor market needs.

Finally, productivity can be enhanced by encouraging innovative approaches to labor-management relations. The Commission recommends:

Assistance for employers and employees as they explore the potential gains from worker participation, innovative compensation arrangements, and pension portability.

Establishment of a task force to review public policies related to labor-management relations.

4. UNDERSTANDING THE WORKFORCE

It is essential that human resource policies be informed by accurate data and careful research. In reviewing policy, the Commission has been dismayed by the paucity of information on many important issues. To assure that future decisions can be based on more complete information about the American workforce, the Commission recommends:

Increased funding for the Bureau of Labor Statistics to develop quick turnaround household surveys, support longitudinal data bases, and conduct pilot studies of new data methods.

Increased funding to the Departments of Labor and Education to conduct experimental evaluations of human resource programs, study the labor market status of disadvantaged individuals, and collect information on best employment practices.

INVESTING IN PEOPLE

A Strategy to Address America's Workforce Crisis

INTRODUCTION

THE CHALLENGE

America's ability to shape the course of the twenty-first century will depend largely on the productivity of the American workforce. Competitive advantage has replaced military might as the principal source of global influence. Our major trading partners have realized that their productivity will determine both their international power and standard of living. These countries have made substantial commitments to educate and train their workforces. America has, in many respects, failed to do the same.

We as a nation stand at a crossroads; one road leads to increased competitiveness, higher standards of living, and a strong presence in the international community; the other, to economic decline. Our most formidable competitors have chosen the former. So too must we.

This country has always been willing to commit enormous energy and resources in times of short-run emergencies such as those posed by wars or domestic financial crises. When danger is imminent, the urgency is obvious. It is always more difficult to make long-run commitments in response to long-run threats. Nonetheless, some of our greatest achievements have been the result of such commitments. When the Soviet Union put Sputnik into orbit in 1957, the nation was shocked that we were behind in the space race. We realized that the true cost of losing the space race would be felt not immediately but for generations to come. Our understanding of the enormity of the long-run costs compelled us to take immediate action, despite the absence of an immediate threat. We established a national program of investment in education, training, and research. Our sustained investments were inspired by a shared vision of a nation second to none in its mathematical and scientific capability, a nation that could win the space race.

Today, we require a similar vision to inspire a national strategy of sustained investment in human resources over the next decade. Such a strategy will shape both our economic future and our position in the community of nations for many decades to come.

In 1987, the Department of Labor issued *Workforce 2000,* which documented an emerging crisis in the American workplace. That report warned the nation that demographic trends, technological change, and increased international competition could weaken our economic position in the next century. The crisis envisioned in *Workforce 2000* has begun to emerge. Increased demand for highly skilled workers, combined with an aging workforce, has already

created shortages of skilled workers, shortages that are likely to grow for many years. At the same time, many low-skill workers are having increasing difficulty finding employment.

This report responds to the challenges posed by *Workforce 2000*. It offers a national strategy to avert economic decline by improving the quality of our workforce. This strategy is based on a partnership between the private sector and all levels of government. While the investments necessary for improving workforce quality must come primarily from the private sector, all levels of government will be called upon to provide funds for programs that can fill the gaps in our nation's system of lifetime education and training. The leadership of the federal government, and particularly that of the Secretary of Labor, will be critical.

EVIDENCE OF AN EMERGING CRISIS

Employers report increasing difficulty in finding the job applicants they need. While part of this difficulty is attributable to recent reductions in unemployment, it is also a result of the "skills gap," the inadequate supply of American workers with the skills required by employers. The projections in *Workforce 2000* indicate that today's gap is likely to widen as the skill requirements of new jobs increase faster than the skill levels of the labor force.

One major factor contributing to the skills gap is the low levels of achievement among students leaving our nation's schools. Employers report that alarming numbers of young job applicants have such poor reading and computation skills that it is impossible to provide them with job-specific training. These problems are particularly acute for the 25 percent of students who leave school before high-school graduation. Perhaps more troubling is the fact that many of those who do graduate possess little more than rudimentary language and mathematics skills.

From the top to the bottom of the American talent pool, our students' academic achievements have failed to keep pace with the competitive requirements of the international marketplace. Our best mathematics students would be ranked just average in almost any Pacific rim nation. Too few of our brightest students are taking the arduous courses of study necessary to prepare for occupations in science, mathematics, and engineering.

Moreover, the skills shortfall is not confined to new or prospective workers. Large numbers of experienced workers have skills that are now obsolete or soon will be made obsolete by changes in technology or by declines in specific industries. With technological change accelerating and international competition increasing, the life cycles of products, technologies, and industries from initial expansion to

final contraction have shortened. Shorter cycles will result in even more rapid obsolescence of workers' skills and will heighten our need for retraining systems.

Retraining, however, usually requires basic reading and computational skills that are well beyond those currently possessed by many experienced workers. At least 20 million, and possibly as many as 40 million, adults today experience substantial literacy problems. Employers' retraining costs are much larger for employees with limited reading and computation abilities. American firms' difficulties in retraining these workers further reduce our ability to compete in the world marketplace.

If the skills gap continues to widen, both sides of the labor market will suffer. Many employers will not be able to hire the types of workers they need to compete in international markets. Some employers will bid up the wage rate of the skilled workers they can find, thereby creating higher costs and diminishing competitiveness. Other employers will be tempted to use foreign workers or to relocate production in foreign countries. Inevitably, some high-skill jobs will remain vacant while large numbers of low-skill workers will remain unemployed. The burden of this unemployment is likely to fall most heavily on minorities. Pockets of chronic unemployment amid otherwise tight labor markets could lead to social and political conflict.

THE VISION

Eliminating the skills gap and enhancing our nation's competitive position will require a substantial, ongoing national commitment to investment in human resources. To be effective, such a commitment must be based on a shared vision of our nation's potential.

We envision American students treating learning as a matter of highest priority. We envision American high schools with nearly 100 percent graduation rates, producing students whose achievements compare favorably with those of their peers in other developed countries. We envision an America in which virtually every adult can read and in which post-secondary education or training is a right rather than a privilege. We envision an America in which workers can find high-quality jobs and employers can find high-quality workers. We envision an America in which all employers are committed to substantial investments in the education and training of their workers. We envision an America without barriers to labor force participation and with full utilization of the skills of the nation's citizenry. We envision an American labor relations system based on cooperation.

Such an America would be, and would deserve to be, a major political and economic power in the twenty-first century.

A NOTE ON FISCAL RESPONSIBILITY

We have considered the fiscal implications of the strategy we recommend to pursue our vision. Throughout our deliberations we have been mindful of the importance of reducing the current budget deficit. At the same time, we are convinced that, because today's skills deficit is so enormous, wisely chosen investments in human capital will yield substantial returns.

We believe that much can be accomplished through additional investments from states, communities, individuals, and American business, and through a careful reallocation of current federal expenditures on human resources. There is likely, however, to be a clear and pressing need for a sustained increase in federal expenditure on human resource programs.

We are still the world's most wealthy nation, but we are at risk for want of human resources. We must not accept a workforce that is undereducated, undertrained, and ill-equipped to compete in the twenty-first century.

A NOTE ON LABOR AND MANAGEMENT COOPERATION

In a spirit of cooperation and in pursuit of mutual goals, business and labor have worked together as peers and allies on this Commission. Many of our recommendations call for a spirit of cooperation like that which invigorated our work.

Often the report refers to "business" or the "business community." Consistent with our shared vision and sense of shared responsibility, we intend for these terms to include both management and labor. We recognize that all elements of the business community must work together to achieve our mutual goals.

THE COMMISSION'S STRATEGY

Pursuing our vision of America's potential will require coordinated action on many fronts. There is widespread agreement that investments in physical capital and in research and development should be increased. These activities, while important, are outside our charge to focus on human resource development. Given the brevity of our time together and the magnitude of our task, we did not address the economic, developmental, or health needs of young

children, though these issues are closely related to workforce quality and are clearly important. In light of the many efforts already underway, we also did not address the impacts of substance abuse on the labor force participation of young adults or its overall impact on workplace efficiency.

The initiative we present rests on three pillars:

- Creating incentives to improve student motivation and achievement.
- Improving workforce quality through public and private investments in lifetime education and training.
- Improving the efficiency with which workers' existing skills are utilized.

Chapters 1, 2, and 3 of this report contain the results of our deliberations on each of these themes, as well as specific recommendations for action by the private sector, the education community, and all levels of government. In our review of human resource policy, we have been dismayed by the dearth of reliable data and research on many important questions. Chapter 4 contains our recommendations for improving the data-gathering and research activities of the federal government so that our leaders' future decisions can be based on more complete information about the American workforce.

1. THE FOUNDATION OF WORKFORCE QUALITY

People begin to acquire labor market skills long before they enter the labor market. Indeed, the quality of early life at home exerts a powerful influence on the quality of later life at work. The school is second only to the family in its importance as a source of the education that forms the foundation for a lifetime of career options. Post-secondary studies, government training programs, and employer-provided education and training all build on this critical foundation. The schools' contribution to workforce quality is, therefore, a substantial one.

For too many Americans, the foundation is shaky. The educational task before our nation is enormous. Vast numbers of our students fail to meet the educational requirements of the workplace or match the academic accomplishments of their counterparts abroad. Employers report that many young people's skills are insufficient to qualify them for entry-level jobs. Even taking into account institutional and cultural differences, the consistent and significant underachievement of American students, relative to their counterparts in other countries, is of grave concern. U.S. students lag behind in science and mathematics at every grade level and at every stratum of ability and background. Compared with students in the developed countries of Western Europe and the Pacific rim, the average mathematics attainment of students in our middle and secondary schools places them in the bottom quartile. Worse perhaps, the top 5 percent of college-bound high-school seniors in the U.S. have scores in advanced mathematics comparable to the average score of all Japanese seniors.

The time has come for this country to make a commitment to education, a commitment as ambitious and aggressive as our past commitment to space exploration. Our national leaders must establish national education goals to provide a framework within which state and local governments—along with educators, the business community, and parents—can develop plans for action and establish systems of measurement and incentives for success. It is vital that the nation be charged to work together and act aggressively to meet ambitious goals.

1. The President should lead governors, mayors, educators, the business community, parents, and all citizens in developing specific national education goals and timetables. The goals should include: reducing school dropout rates; increasing attendance rates; improving test scores and achievement levels; increasing parental participation; and ensuring that our nation's youth graduate with the basic skills necessary to be successful in the workplace.

Once national goals and timetables are set, it will be necessary for our students to expend the effort required to achieve these goals. Currently, our schools and parents expect less of our young people than is expected of students in other developed nations. The greater importance attributed to education by our international competitors and the greater efforts of their students account for much of the shortfall in American students' achievement. Indeed, a recent study of 13-year-olds in the U.S., Korea, Spain, Ireland, the United Kingdom, and Canada produced these ranks for U.S. students: last in average mathematics proficiency; nearly last in average science proficiency; last in the amount of mathematics homework reported; nearly last in the amount of science homework; and first only in the percent watching five or more hours of television each day. To be sure, there are other significant differences between our education system and those of other countries; our management of curricula and resources is less centralized, and our schools place less emphasis on science and mathematics. Nevertheless, there can be no doubt that increased effort by American students would contribute significantly to increased educational achievement.

We believe that many students lack sufficient incentives to inspire their wholehearted engagement with learning and, furthermore, that many aspects of the American education and employment systems are inconsistent with the interests of learning. For example, while the admission standards of the most prestigious colleges and universities create strong incentives for the handful of students who aspire to attend these select schools, most post-secondary institutions have longstanding "open admissions" policies that guarantee access for any resident holding a high-school diploma. Consequently, students need merely to graduate from high school to gain admission to college, a situation that offers few incentives to study hard or otherwise prepare for college work. Similarly, students who choose to go directly to work rather than pursue post-secondary education find that their immediate earnings prospects are unrelated to their school performance and, hence, see little reason to study.

Accordingly, it is important to create incentives that both justify and reward scholastic effort. This is particularly true for our lowest achievers, many of whom believe they have little to gain from school work. A number of strategies have been offered to counter academic underachievement. Examples of these strategies include those

imposed by the schools ("no pass, no play" rules for school-sponsored sports programs), those imposed by states (linking driver's license eligibility to continued enrollment in school), those offered by philanthropists (free college tuition for all who qualify), and those offered by business/education partnerships (jobs for all students who meet a prescribed educational standard). While it is too early to judge the success of these approaches, we believe they offer models that can be adapted to a variety of situations.

Most of the recommendations in this chapter focus on engaging students in the learning process. No one of these recommendations in isolation, or even the combination of all of them, is sufficient to solve America's educational problems. Nonetheless, we believe that engaging students' self-interest in their studies is an important step, offering opportunities to promote achievement that are missing from most current reform efforts.

If this strategy is to work, however, businesses must play a significant role in creating incentives for achievement. During the past decade, the business community has, in fact, substantially increased its involvement in the schools. We applaud these efforts and call for their expansion.

Of all the contributions that the business community makes, the most important one is to help students understand the world of work and its relationship to what is learned in school. Many young people, particularly those in low-income urban areas, have very little understanding of the nexus of school and work. Nothing can make this relationship more clear than an assurance from the business community that jobs will be available for those students who earn adequate educational credentials.

2. The business community should increase its presence in the schools, work with parents and school personnel, talk directly with students, and show through their hiring and promotion decisions that academic achievements will be rewarded. Increased involvement of the business community will be particularly valuable in low-income urban areas.

Business can make additional contributions by providing schools with the information that they need to develop course content and instructional methods that meet the current and emerging needs of the workplace. Increasingly, employees will have to work in cooperative groups, be able to make decisions about production problems and processes, and develop the ability to acquire new skills and behavior on the job. We urge schools to adjust their instructional methods to match more closely the situation students will later face in the workplace.

3. ***Schools should encourage the business community to provide the information needed to develop classroom instruction that anticipates emerging workplace needs. These techniques, emphasizing less interpersonal competition, more cooperative effort, and increased problem-solving abilities, should be used throughout a child's entire education. Schools should also create the flexibility of schedules and educational formats necessary to enable students of different abilities to meet the higher standards of performance that are required by employers.***

Another vehicle for creating incentives for students to stay in school and study harder is to develop curricula in which applied, "hands-on" instructional techniques are used to teach basic reading and mathematics to students who do not choose purely academic courses of study. The National Assessment of Vocational Education has reported evidence that many students who do not succeed in traditional courses of study can meet reasonable standards of accomplishment when course work is combined with applied training that gives meaning to their studies. Proposals offered by the Administration and legislation introduced by members of Congress to reauthorize the Vocational Education Act call for increased use of vocational technical education as a vehicle for basic skills instruction. We encourage these and related initiatives.

4. ***Schools should offer applied instruction, such as vocational technical education, that emphasizes transferable academic skills including reading, mathematics, science, communication, and problem-solving.***

Students who pursue traditional academic studies also need incentives to inspire effort. In many countries, such incentives are created by competitive admissions policies that limit access to post-secondary education. In this country, however, we are committed to open admissions to most public post-secondary institutions. This commitment may inadvertently undermine incentives for many college-bound students, leaving them underprepared for college curricula.

5. ***The Secretary of Education should institute a review of post-secondary admissions policies and their implications for the performance of students who aspire to post-secondary education. The review should focus on opportunities to inspire elementary and secondary level students to prepare more diligently for college study.***

In addition to creating incentives for students to study harder in school, we need to encourage students to undertake and excel in scientific and technical fields. Science instruction at the elementary

school level is scarce at best. Few teachers are trained to teach elementary science, and students often receive no exposure to the sciences until they reach middle school. By then it is too late; most U.S. students never catch up to students in societies where early science instruction is emphasized. Moreover, too few of our youngsters aspire to enter scientific fields, a shortage of interest that is most pronounced among women and minorities. We believe that schools should aggressively encourage such aspirations, and that industries that rely on a scientific and technical workforce should assist the schools in this endeavor.

6. Primary and secondary schools, in partnership with the business community, should encourage the pursuit of scientific and technical courses of study, particularly by minority and female students. Given the absence of an adequate supply of elementary school teachers able to teach science, federal and state governments should give immediate priority to: the development of a kindergarten through twelfth grade plan of study in the sciences; the design of a curriculum that provides hands-on experience for children of all ages; and the more effective use of talented science teachers and community resources. In the long run, special attention should be given to the creation of an adequate supply of elementary school teachers able to teach science.

An improved curriculum and better trained teachers will have more impact on students if they have incentives for accomplishment. Immediate rewards are likely to encourage effort more effectively than rewards that come later in life.

7. High-school students who excel in science and mathematics should be rewarded with business internships or grants for further study.

Another way that employers can reward students for their achievements is by offering them good jobs upon completion of school. Currently, however, students have few means of communicating their accomplishments to employers. Typically, when job applicants authorize the release of their transcripts to prospective employers, schools fail to deliver the transcripts in a timely manner. Since hiring decisions for entry-level jobs are usually made quite quickly, even short delays can create problems. Employers often have difficulty interpreting the transcripts they do receive and are forced to make decisions with little information regarding an applicant's actual academic accomplishments. Lack of information is a particular problem for small employers, few of whom can afford employment testing.

Making transcripts an integral part of the employment process will sharpen students' awareness of the importance of grades and other indicators of school performance. We believe that this heightened awareness will lead to greater effort and, consequently, to greater achievement.

8. Schools should develop easily understood transcripts which, at the request of students, are readily available to employers. These transcripts should contain documentable measures of achievement in a variety of fields, as well as attendance records. State governments should provide assistance to facilitate the standardization of transcripts so that they will be more easily understood.

The creation of a voluntary achievement testing program could provide an additional way for students to document their accomplishments. Such a program could focus on a test measuring competencies in a variety of academic and vocational areas. It would be necessary to develop a new test since tests currently in widespread use are not sufficiently broad in scope to meet the wide-ranging requirements of the achievement testing program that we envision. Students who take the new test would be certified at different levels of proficiency in the content areas of their choice. After taking the examinations, students could choose whether to distribute the results to prospective employers or post-secondary institutions. An additional advantage of such a testing program is that the process of documenting students' skills and achievements would call attention to differences in student achievement across teachers and school districts. Increased awareness of such differences would create incentives for improved performance by teachers and school systems.

There is a risk, however, that widespread use of test scores by employers could place students from relatively underfunded school districts at an additional disadvantage. It is important, therefore, that any initiative for increased testing of high-school students be accompanied by aggressive efforts to equalize resources across school districts. We want to emphasize that our aim is to increase opportunity by increasing achievement, and that both equalizing resources and increasing incentives will be necessary if we are to succeed.

9. National educational and employers' associations should work together to develop easily understood credentials, based on voluntary achievement testing programs, that assess student proficiency levels in a wide variety of academic and vocational areas. Testing programs must be accompanied by efforts to equalize resources across school districts.

Schools and employers should further strengthen the linkage between school and work by establishing school-based employment

services. While most schools contribute significantly to the college placement process, few schools offer similar job placement support for students who do not go directly to college. Some State Employment Security agencies have already established job placement services in high schools, and further experimentation would be worthwhile. Such programs hold special promise in low-income urban areas where young job applicants typically have very little information regarding job opportunities.

10. ***Schools should work with State Employment Security agencies and Private Industry Councils to establish school-based employment services with direct connections to employers. Employers, both large and small, should be encouraged to provide information on job openings and to consider filling vacancies with recent accomplished high-school graduates. Students should be provided with evidence that the system works for those who have the necessary skills.***

The prospects for greater student effort and achievement will be improved if student incentives are accompanied by incentives for improving the quality of teachers. Raising the level of teachers' subject matter competence will no doubt raise student achievement. The quality of teaching can be improved by recruiting individuals with proven substantive competencies and by ensuring that all teachers are masters of the subjects they teach.

11. ***State departments of education should improve instruction by developing teaching opportunities for individuals who have substantive competencies but lack education training, by instituting more rigorous testing of new teachers, and by requiring retraining of existing teachers who lack substantive competencies.***

Teachers who do their jobs well should be professionally recognized and rewarded in ways that promote collegiality and additional effort by all instructional staff within an individual school. Consequently, rewards should be based both on measures of outstanding individual performance and on evidence of outstanding achievement by faculties of entire schools. Possible rewards at the local, state, and national level would range from public recognition, to promotion, to financial bonuses. The business community should be an active partner in creating and supporting these incentive systems. In all cases, rewards should be based on observable criteria such as gains in student achievement or measures of a teacher's substantive competencies. We acknowledge successful ongoing teacher incentive programs that provide greater status, responsibility, and compensation. Such programs have been implemented in Dade County, Florida; Rochester, New York; and the state of California.

12. ***Teachers who do their jobs well, either as individuals or as members of school faculties, should be recognized and rewarded, both professionally and financially. All levels of government should work with the private sector to establish incentives for teacher excellence.***

Just as students and teachers need incentives to inspire achievement, so too do individual school administrators and school systems. Experience has shown that public recognition is an effective means of encouraging such achievement. We urge the expansion of public recognition programs at every level of government and encourage the development of district or state-level comparisons based on data from the National Assessment of Educational Progress. Such comparisons would not only facilitate recognition programs, but would also allow identification of the most effective educational strategies.

13. ***Federal, state, and local governments should increase their efforts to give public recognition to school administrators and school systems whose students and teachers display significant gains. Additional funding for the National Assessment of Educational Progress would facilitate such efforts.***

This nation's need for educational reform cannot be overstated. The recommendations in this chapter will help to improve the quality of our students, our teachers, our curricula, and our schools, but there is reason to believe that more fundamental change will be required. We are now witnessing a major restructuring of businesses and other organizations across America, frequently resulting in profound changes in employee-management relations. While educational organizations face unique problems and challenges, it is clear that the time has come to consider an analogous restructuring of our schools and that much can be learned from successful restructuring of other organizations. This learning could be facilitated by the interaction of private sector managers and employees with their school system counterparts.

14. ***The U.S. Department of Education, in cooperation with state departments of education, should encourage experimentation involving fundamental restructuring of schools. Encouragement should include grants, technical assistance, and regulatory flexibility. The business community should offer schools the benefit of its experience in organizational restructuring.***

2. LIFETIME EDUCATION AND TRAINING

America must develop a coherent system for providing post-secondary education and training to adults. We believe that the need for a system of lifetime training and retraining is large and growing. Since over two-thirds of today's workers will remain in the labor market beyond the year 2000, the labor force of the early twenty-first century is, in substantial part, the labor force that we have today. That labor force is deficient. Between 20 and 40 million adults today have literacy problems, making it difficult for them to be trained or retrained. Each year, additional workers with literacy deficiencies enter the workforce; one in 10 of our 17-year-olds is functionally illiterate. One-half of all 18-year-olds have failed to master basic language, mathematics, and analytic skills. Employers report difficulty both in hiring skilled workers and in finding entry-level applicants who can read and compute well enough to participate usefully in employer-provided training programs.

Today's labor force does not meet our current needs, and our needs are increasing as technological change accelerates and foreign competition intensifies. Researchers have consistently found modest but steady increases in the average skill requirements of a broad array of jobs. *Workforce 2000* projects that the jobs of the early twenty-first century will be very different from the jobs of today, again requiring substantially higher skills. At the same time, the American workforce will be aging, a circumstance that will force us to retrain experienced workers if we are to meet the demand for new skills.

We believe that responsibility for investing in the workforce of the future resides primarily in the private sector. It is important, therefore, to establish an environment that encourages private investment in human capital. The first section of this chapter proposes changes that will help create such an environment.

While private investment in human capital is crucial, it will not be sufficient to meet all our needs. Public initiatives at the federal, state, and local levels will be required to fill the gaps in our system of lifetime education and training. If we are to fill these gaps, we must reverse the decline in federal monies devoted to human resource programs. Between 1978 and 1988, federal expenditures on these programs fell from 0.85 percent to 0.45 percent of the Gross National Product. These low levels of funding make it impossible to serve many who are in need. For example, for every three adults now enrolled in Adult Basic Education programs, there is one on a waiting list. Given the increasing importance of workforce literacy, we cannot afford to continue turning away people who want to learn.

In addition to increasing the level of public resources, we must focus our expenditures on those economically disadvantaged persons whose needs are unlikely to be met by private investment alone. The Job Training Partnership Act (JTPA), America's largest federal training program, is not sufficiently targeted on such individuals. Below we discuss the JTPA amendments that the Secretary of Labor has recently proposed to address this problem. These amendments also encourage coordination across programs and agencies. In the second section of this chapter, we make recommendations regarding the funding, focus, and coordination of our public education and training programs.

EMPLOYER INVESTMENTS IN HUMAN CAPITAL

If we are to maintain our status as a major economic power, we must create an American workforce that can adapt to increasingly sophisticated methods of production. Adaptation will require retraining, and retraining will in turn require that workers (both young and old) have strong reading, computation, problem-solving, and reasoning skills. Both basic skills instruction and retraining will require substantial new investments.

U.S. firms are already spending significant amounts of money on the education and training of their workers. It has been estimated that employers currently spend $30 billion annually on formal training. While this amount seems large, it is important to remember that these expenditures are spread across 108 million workers and equal only 1.4 percent of firms' payroll expenses. In addition, the expenditures are very unevenly distributed across workers, with high-wage workers receiving the vast majority of the training.

One major obstacle that inhibits employer-provided training is that workers who leave a firm take their skills with them. Workers' mobility reduces employers' expected returns on training investments, thereby reducing the level of those investments. In some countries, such as Germany and Sweden, widespread use of apprenticeship programs helps to lengthen the period of time that workers stay with the firm, thereby giving the firm a longer period of time to recoup its investment. In other countries where employment relationships between many workers and their employers are long lasting, mobility of human capital is a lesser concern. According to a report from the Organisation for Economic Cooperation and Development, the average U.S. worker has been in his job for 7.2 years. Of the 14 member countries included in the report, only Australia has lower average job tenure. In the U.S., where there are limited numbers of apprenticeship programs and where job turnover is relatively high, public policies are needed to encourage human capital investment.

The difficulty that employers have in recouping their investment in human capital is similar to the problem that firms face when they invest in research and development. The benefits of research and development often spill over to other firms and the rest of society. As a result, such investments may produce greater benefits for others than for the firm making the investment. Consequently, we use tax policy to create incentives for research and development. As is the case with research and development, one employer's investment in training may benefit other employers when trained workers move between firms (the mobility problem). Just as society can benefit from additional expenditures on research and development, so too can we benefit from additional human capital investments.

France has already established a refundable training tax credit which essentially requires all firms to spend at least a minimum amount on education and training. Under this system, firms must either spend a specified minimum percentage of their payroll to train their employees or pay that same percentage into a government administered training fund. The experience in France indicates that virtually all employers make at least the minimum required training expenditure; that is, few firms actually pay the tax. While we do not endorse the specific approach chosen by France, we do believe that the time has come for America to establish a corporate income tax credit to stimulate human capital investment.

There are several concerns that should guide the design of such a tax credit. First, a tax incentive for training should be carefully designed so that it stimulates new investment and does not subsidize training that would have occurred in the absence of tax incentives. The research and development tax credit focused incentives by basing the credit on the difference between current expenditures and the average of expenditures over the three previous years. We advocate a similar approach for the training tax credit. For technical reasons, however, we suggest the use of a longer base period.

A second important concern about the design of a training tax credit is the definition of allowable expenditures (i.e., those that qualify for the credit). Since many categories of expenditures could be distantly related to training, the credit must be based on fairly narrow and specific expenditure categories. In the absence of such limitations, firms would have incentives to adopt extremely broad definitions of training expenses. It is important, however, to limit the definition without limiting employers' choices regarding the content and intensity of training. We suggest that the training tax credit be based on expenditures in the following categories: compensation of employees whose sole duties are the design, implementation, or presentation of training programs; the purchase or development of instructional materials and equipment; and payments to third parties (e.g., schools) that provide education or training services.

A final important question is whether the tax credit should be limited to expenditures for the training of a particular category of workers. For example, the credit could be restricted to training expenditures for employees who are nonexempt under the Fair Labor Standards Act. A restriction of this type would reduce the revenue loss associated with the credit and would focus the subsidy on those workers who currently receive the least training. A potential problem with a restricted credit is that it would not encourage the broad spectrum of training that many believe is required. We encourage the Department of Labor to consider this issue as specific tax credit proposals are developed.

15. ***The federal government should create a tax credit to encourage employers to increase expenditures on education and training, guided by the concerns discussed above.***[1]

The extent and content of employer-provided education and training are major determinants of workers' economic futures. Consequently, workers want to participate in the design of these programs. Recent successful collaborations between unions and management in the automobile and telecommunications industries, as well as participative training programs in the computer and health care industries, have shown the tremendous value of worker input in the design and operation of training programs.

16. ***Employers should be encouraged to seek input from workers in making decisions about training. The Department of Labor should collect and disseminate information on successful collaborative training programs.***

Just as the corporate tax treatment of employer-provided education and training expenses can affect the level of human capital investment, so too can the personal tax rules. For 10 years ending in 1988, employer-provided education was not treated as taxable income to the employee. With the expiration of section 127 of the personal income tax code at the end of 1988, employer-provided education benefits became taxable income if the education was not required for the employee's current position. This new treatment discourages workers from accepting employer-provided education related to new occupations. Many low and middle income workers cannot afford to pay taxes on these benefits, even if the education is crucial for advancement. Tax provisions that discourage preparation for new occupations make little sense in a rapidly changing economy, where our workforce must adapt with increasing speed.

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[1] Commissioner Becker has requested that we note his dissent from this recommendation.

17. ***Personal income tax rules should be changed, restoring the exemption for employer-provided education and training benefits that are not directly related to an employee's current job. Reinstating section 127 of the personal income tax code would achieve this objective.***

Other obstacles that discourage firms from investing more in their workers are the difficulty and expense associated with creating effective training programs. Most firms are not primarily in the business of providing education or training, and many are not familiar with the most effective instructional techniques. These problems are particularly acute for small firms, but even large firms may encounter difficulty providing training in highly specialized skills. Many of these employers would benefit from technical assistance. One promising focus for such assistance is computerized education and training techniques that can often be a cost-effective method of providing training to employees.

18. ***The federal government should encourage the provision of basic skills education, as well as specific job training, by providing technical assistance and collecting information on "best practices." In particular, the use of computerized training methods should be encouraged through the dissemination of information on the use of computers in military, apprenticeship, and other forms of training.***

Another way that firms can reduce the difficulties of providing training is to form multi-employer training programs. The premise of such programs is simple; employers are more willing to invest in their workers' training if they know that other employers in the industry are doing the same. That way, when workers move between firms, the firms' investments are exchanged rather than lost. Unionized construction firms already have multi-employer apprenticeship programs, created under collective bargaining agreements. Individual employers support these programs through contributions to a centralized training fund. The workers who are trained emerge with a set of specific job skills, competencies, and credentials that are of value to many employers.

Programs of this type hold promise for the non-unionized sector as well, but may be viewed as violations of U.S. antitrust laws. The antitrust concern is analogous to that raised regarding multi-firm research and development activities. This concern was addressed through the passage of the National Cooperative Research Act of 1984, which permits the establishment of certain research and development partnerships. A similar legislative initiative may be needed to allow for employer training cooperatives in non-unionized industries.

19. ***Employers should be encouraged to work together to establish training programs and certification procedures for skills that workers gain through on-the-job training. Antitrust laws may need to be amended to allow non-unionized employers to cooperate in the provision of training.***

Vendor-provided training is most commonly used by small employers who do not have training programs of their own. Thirty-one percent of all formal, employer-provided training is purchased outside the firm. Working in partnership with business, community colleges are becoming an increasingly vital and dynamic source of education, training, and retraining, by providing customized classes responsive to employers' evolving needs. We endorse these partnerships and encourage their expansion.

As is the case with other types of training, vendor-provided training is most valuable when workers leave the training with certified competencies or other credentials that are well understood and widely valued by employers. Certification programs for many types of training have already been developed by state governments and professional associations. An added advantage of such programs is that they provide both workers and employers with information about the quality of training provided by different vendors. For example, vendors that produce large numbers of graduates who pass the state's occupational test gain a good reputation, making it more difficult for ineffective or fraudulent programs to survive.

20. ***The federal government should provide technical assistance to state governments, professional associations, and the business community as they develop explicit standards for job skills and competencies based on specific occupational tests. The results of these tests should be used to create easily understood, portable credentials that certify a worker's skills.***

GOVERNMENT TRAINING PROGRAMS

Although the private sector has an important role to play in providing lifetime education and training, we cannot realistically expect private employers to meet the universe of need, especially for those individuals with the most severe skill deficiencies. Even if primary and secondary schools are greatly improved, there will always be some individuals who leave school without the basic skills needed to function effectively in the workplace. Providing a "second chance" for those who are severely disadvantaged has been, and must continue to be, a major role of government training programs at the federal, state, and community levels.

An enormous number of adults with literacy problems today will still be part of the workforce well into the twenty-first century.

Increasing the literacy of native-born adults and strengthening the English proficiency of immigrants will be continuing needs. Current government support for the provision of basic education to adults, however, falls far short of meeting those needs. Our literacy programs now serve only 1 to 2 percent of eligible adults. Waiting lists for adult basic education classes average 35 percent of enrollment; waiting lists in urban areas are even longer.

In this country, we are strongly committed to publicly supported education for children and teenagers through the high-school level. This commitment takes the form of a right, established in the constitution of every state. Although relevant federal and state programs exist, the commitment to meeting the basic skill needs of adults is much weaker. That weakness is inconsistent with the importance of upgrading the skill level of the nation's workforce. It has been estimated, for example, that the current waiting lists for programs funded by the Adult Basic Education Act could be eliminated at a cost of $64 million per year. While this estimate might prove to be conservative if program expansion produces greater demand, it points to one way that our commitment to basic skills education could be strengthened at a relatively low cost.

It is important to recognize, however, that many individuals with young children will have difficulty taking advantage of basic skills education programs unless affordable child care is available. In Chapter 3 we address this issue and make recommendations for increasing the availability and affordability of child care.

21. ***Federal and state governments should work together to ensure lifetime access to basic skills education for adults, with the objective of eliminating illiteracy among adults by the year 2000.***

Federal education and training programs were strengthened in 1982 by the passage of JTPA, which focused services on economically disadvantaged adults and youth. Nonetheless, there is room for improving JTPA's effectiveness in providing services to those who need them most. The combined effect of the JTPA's performance incentives and funds allocation formula makes it difficult for deliverers to serve individuals in need of remedial education. As a result, the program tends to "cream," serving some individuals among the economically disadvantaged population who are likely to find employment without assistance. Creaming reduces the effectiveness of the program by devoting resources to some individuals who derive little or no net benefit from participation. In its recent report, the JTPA Advisory Committee suggested changes that would result in more intensive and coordinated services for those among the economically disadvantaged who could benefit most from participation. Amendments proposed by both the Secretary of Labor and members of Congress are consistent with the Committee's suggestions.

22. ***We endorse Job Training Partnership Act amendments to increase targeting of resources on those in need of remedial education, to improve coordination of JTPA with other human resource systems, and to increase the emphasis on basic skills remediation.***

Since its enactment in 1982, JTPA has received no increases in funding. Because of inflation, real expenditures are now 25 percent below the 1982 level. In 1987, Title II-A of JTPA (the title receiving the largest allocation) had an annual budget of $1.9 billion, enabling it to serve only 5 percent of the eligible population of disadvantaged youth and adults.

23. ***The level of funding for Title II-A of the Job Training Partnership Act should be increased to enable a greater percentage of the eligible population to be served. In addition, expenditures should be indexed to assure that future funding levels keep pace with inflation.***

Cost/benefit studies indicate that the Job Corps' residential program (Title IV-B of JTPA), which provides a structured and supportive learning environment for extremely disadvantaged youth, is an effective education and training program. We believe that the proven success of the Job Corps program justifies its expansion.

24. ***The level of funding for the Job Corps program should be increased.***

Recent legislative changes have reduced the share of JTPA funds to be allocated at the state level by governors. This change has had the unfortunate effect of increasing the difficulty of arranging training programs, such as industry-wide collaborative programs, that span service delivery areas within a state. While we make no recommendation to address this problem, we suggest that the Secretary of Labor consider allocating a significant portion of discretionary JTPA funds to statewide programs.

An additional concern about current government training programs is that many economically disadvantaged men face financial barriers to their participation. Current training programs provide little or no financial support to participants. Since men are typically ineligible for welfare programs, they may find it difficult to sustain themselves and their families while participating in training programs. Efforts are needed to draw low-income men, particularly black men, into training programs and into the labor force.

25. ***The federal government should expand and strengthen training programs for the disadvantaged with emphasis on the needs of low-income men with family responsibilities. These programs should provide opportunities for structured work experience, with precisely defined objectives, responsibilities, and duration.***

Disabled persons are another group that can benefit from programs to enhance employability. Limited resources, however, force us to make difficult choices about who will be served by these programs. We can either spend small amounts of money on a large number of people, or we can concentrate our resources on those who stand to make substantial gains. Just as we want JTPA to focus on the severely disadvantaged because they are likely to benefit most, we want our disability programs to focus on those among the disabled who are likely to realize the largest labor market gains.

26. ***Vocational rehabilitation and disability programs should try to identify and focus on those individuals who are most likely to gain substantial economic benefit from program participation.***

Another significant public initiative for training and education is student grants and loans. While both grants and loans for student aid have grown in real terms since the 1970s, the growth in loans has been much more dramatic. A recent study by the American Council of Education reports that low-income minority students are less likely to obtain a Guaranteed Student Loan than are similar low-income white students. Other research indicates that grants encourage higher rates of participation in post-secondary education among minorities.

27. ***Additional federal resources should be devoted to training and education grants for low-income students who have graduated from high school or received a general equivalency diploma.***

The responsibility for federally supported education and training programs is shared by a variety of federal and state agencies: the Department of Labor's JTPA program is administered by local Private Industry Councils; under the Job Opportunities and Basic Skills (JOBS) component of the Family Support Act, the Department of Health and Human Services funds training programs for welfare recipients through state welfare departments; and adult basic education and vocational education programs are administered through state education departments. This fragmentation and associated administrative complexity make it difficult to integrate training services, respond strategically to evolving workforce needs, and use limited resources efficiently. The necessary coordination across executive agencies can only be achieved through Presidential leadership.

28. ***The President should create a permanent committee, including business and labor representatives as well as the Secretaries of Commerce, Education, Health and Human Services, Housing and Urban Development, and Labor, to coordinate human resource policy on a continuing basis. The committee's first task should be to merge education and training programs wherever possible.***

3. PUTTING QUALITY TO WORK

There are two fundamental ways to improve the quality of the workforce. One is to invest in the labor market skills of the population; the other is to make more efficient use of the skills that already exist. The previous two chapters have focused on the former; here we consider the latter.

One way to promote labor market efficiency is to reduce the barriers that prevent some individuals from fully participating in the labor force. One of these barriers is employment discrimination against minorities, women, older workers, and disabled persons. Although employment discrimination is prohibited by a variety of state and federal laws, there is a continuing need for vigilance and active enforcement on the part of responsible agencies. These laws are motivated by principles of fairness, but their enforcement creates the additional benefit of promoting efficiency by focusing labor market decisions on objective factors such as skill requirements and applicants' qualifications. We have no new anti-discrimination initiative to recommend, but we encourage the vigorous enforcement of existing laws.

Another way to promote labor market efficiency is to create supportive work environments that ease the tension between work and family responsibilities, thereby facilitating the labor force participation of individuals with such responsibilities. In coming decades, the slow growth of the labor force will create incentives for employers to create supportive work environments. The recommendations in the first section of this chapter suggest several ways to facilitate this process.

Matching job seekers with job vacancies is another important factor determining the efficiency with which the labor market operates. Human resources are wasted if qualified applicants are available while jobs go unfilled. The second set of recommendations in this chapter offers ways to facilitate the process of matching workers with jobs so that the skills already available in the labor market are used more effectively.

Another fundamental determinant of labor market efficiency is the level of worker productivity. The third set of recommendations in this chapter offers ways to increase productive efficiency through worker participation in the management process and through innovative compensation arrangements.

FACILITATING WORK/FAMILY BALANCING

As women's labor force participation has increased, both dual-earner couples and families headed by single working mothers have become much more common. American workers, both men and women, who in the past had an adult partner in the home, now find themselves juggling work and family responsibilities which are likely to be in frequent, and unavoidable, conflict. The pressures come in many forms including difficulties with child care and elder care arrangements as well as family illness. From the employer's perspective, work/family conflicts lead to unscheduled absences, tardiness, misuse of working time, and difficulty in retaining valued employees and attracting new ones.

Some employers already realize that they can no longer adhere to the old principle that family issues have no place at work. Enlightened self-interest has inspired a few of them to establish programs to help employees solve work/family problems. Emerging labor shortages will undoubtedly induce additional employers to do the same. There is a compelling public interest in accelerating the process of creating supportive work environments that enable all workers to be full participants in the workforce.

The labor force participation rate of married women with young children has, on average, increased more than one percentage point each year since 1950. Today, 63 percent of all mothers with children under the age of 14 are in the labor force. This economic change has brought about unprecedented social changes, including increased needs for day care for pre-school children and after-school care for many older children.

We have confined our deliberations to the child care needs of parents who are employed, seeking employment, or participating in an education or training program. As noted in the Introduction, the developmental needs of disadvantaged children whose parents are not in the labor force was deemed beyond our purview.

Throughout our year-long deliberations, we followed the considerable number of legislative initiatives designed to address the child care issue. Because of the rapid evolution of these initiatives, it was not possible for us to endorse a particular bill. We have, therefore, chosen to make recommendations that describe certain features for strengthening our child care system while maximizing parental choice among a variety of affordable, quality child care options.

Community-based resource and referral organizations have demonstrated their effectiveness both in providing the information that parents need to make appropriate choices and in stimulating the supply of child care services. In most communities, however, these organizations are inadequately funded. We are convinced that an

expansion of community-based resource and referral organizations would have three major benefits. First, it would help parents find appropriate child care arrangements while preserving maximum parental choice. Second, it would enhance each community's ability to identify and react to its own needs and priorities, including pre-school and after-school programs, sick child care, and transportation. Third, it would serve as a magnet for community-based, public/private partnerships, thereby creating a vehicle for employer involvement and support. In sum, community-based resource and referral organizations can create a facilitative network without adding an additional layer of government. We strongly urge federal leadership to encourage the expansion of community-based child care resource and referral organizations.

29. ***The federal government should provide grants to the states to support the efforts of community-based child care resource and referral organizations.***

The child care concerns of many parents are aggravated by the high cost of quality care. Child care is a financial burden to many families; it is virtually unaffordable to a large number of low-income Americans. For these people, child care problems can be a serious barrier to job training and employment.

Under current tax law, a child care tax credit is available to families with working parents who have children under the age of 15. A high degree of flexibility in the program allows parents to select from a wide variety of arrangements. We are persuaded that the existing tax credit for child care is an extremely useful way to help parents with their child care expenses while maintaining parental choice. The principal drawback to the current credit is its irrelevance to poor families because they typically pay no income taxes. This problem could be corrected by making the credit refundable to low-income parents.

30. ***The existing child care income tax credit should be made refundable to parents too poor to pay income taxes.***

Even after the credit is made refundable, many families will still lack the resources to pay for quality child care. We believe that the federal government should provide additional child care subsidies to low-income families. We have been unable to agree on a choice among the alternative ways to provide increased subsidy, such as a more generous child care tax credit, vouchers, or grants to child care providers. We do agree, however, that increased federal subsidization should be targeted on low-income families.

31. ***The federal government should increase its subsidization of the child care expenses of low-income families.***[2]

Another way to help families with their dependent care needs is to encourage employers to provide dependent care benefits. Such encouragement could take the form of tax incentives or matching grants for employers, but we are concerned about the fiscal implications of these approaches. A second way to encourage the provision of dependent care benefits is to demonstrate the returns that employers can expect from such programs. While anecdotal evidence suggests that employer-sponsored child care initiatives improve employee morale and reduce tardiness and absenteeism, little hard evidence exists on the ability of these initiatives to improve employees' productivity or employers' profitability. Many employers, especially smaller ones, are likely to be more willing to provide child care or other work/family support if such support can be demonstrated to have positive, bottom-line effects.

32. ***Government should support and disseminate research that examines the effectiveness and profitability of different types of employer-sponsored dependent care arrangements. The Secretary of Labor should encourage employers to offer the types of benefits that are found to be most effective.***

Another important issue related to the labor force participation of individuals with young children is employers' parental leave policies. The availability of such policies can greatly improve parents' abilities to fulfill both their family and work responsibilities. After extensive deliberation, we have been unable to reach agreement on whether employers should or should not be required by law to provide parental leave. As a result, we have chosen not to make any recommendation on mandated parental leave. We do, however, strongly encourage employers to make such leaves available, and we expect that future labor shortages will compel many employers to do so.

A related dilemma in creating supportive work environments is the need to offer employees flexible work schedules without jeopardizing the firm's productivity and profitability. Such flexibility may be particularly valuable for older workers and women with young children. Some employers have already adopted a variety of flexible scheduling arrangements, including flextime, part-time employment, and leaves of absence. Of the many employers who have not yet introduced scheduling flexibility, some may find it difficult to do so because of the nature of their business. We believe, however, that other employers would be able to adopt these arrangements and may simply need encouragement to do so.

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[2] Commissioner Becker has requested that we note his dissent from this recommendation.

33. ***Public and private employers, in cooperation with employees, should increase the availability of flextime, leaves, career-oriented part-time employment with fringe benefits, and other arrangements to increase work schedule flexibility. The Secretary of Labor should use her position of leadership to expand such arrangements within the Department of Labor and to encourage their adoption by other public and private employers.***

34. ***Federal and state governments should examine existing overtime laws to determine whether they can be modified to facilitate voluntary flextime arrangements without compromising the protection of workers provided by the overtime laws.***

MATCHING WORKERS AND JOBS

One way to enhance labor market efficiency is to facilitate the process of matching the skills that are needed by employers with the skills job seekers bring to the labor market. Several existing institutions and programs influence this matching process including the public employment service, the unemployment insurance system, U.S. immigration policy, and programs for dislocated workers. Since the General Accounting Office has already initiated a major evaluation of dislocated worker programs, we chose not to devote additional resources to a second evaluation. This section focuses on the public employment service, the unemployment insurance system, the enhancement of workers' geographic mobility, and immigration policy.

The public employment service (ES) is made up of the U.S. Employment Service and individual State Employment Security agencies, all supported by an annual federal budget of approximately $800 million. This federal/state system is responsible for delivering a variety of labor market services including: the matching of job seekers with job vacancies through testing, assessment, and referral activities; the enforcement of the job search requirements of unemployment insurance and other programs; and data collection for the Bureau of Labor Statistics.

Given the significance of these activities, it is important to find ways to make the ES as effective as possible. The most promising way to improve the ES would be to develop a system of accountability similar to that used in JTPA. Accountability must, however, be introduced in ways that both recognize the multiple functions assigned to the ES and preserve and enhance the flexibility available at the state level.

The Resource Allocation Formula (RAF), a system for creating accountability in the ES, was tried in the past with little success. The RAF was a performance-based allocation mechanism that encountered major problems of inflexibility and difficulty in measurement. Eventually this formula was abandoned. Since then, however, our experience with JTPA has taught us a great deal about the use of performance standards in employment and training programs. Much of what has been learned could now be used by the ES. The Secretary of Labor already has the statutory authority under the 1982 Wagner-Peyser amendments to set performance standards for the ES; we urge the Secretary to consider performance standards for the ES similar to those used by JTPA.

Some adjustments would be needed to accommodate the mission of the ES. Standards should be based on placement rates, wage rates, client characteristics, new job orders, differences in state economies, and efforts to integrate ES services with other federal, state, and local employment and training programs. There will inevitably be costs associated with implementing performance standards, but the JTPA experience convinces us that the benefits of such an undertaking would justify the costs. Once ES performance standards are in place, states should be encouraged to consider innovative methods to meet the standards.

35. The Department of Labor should reconsider the use of performance standards for the employment service in light of what has been learned from the experience with the Job Training Partnership Act.

Another major institution affecting labor market efficiency is the unemployment insurance (UI) system. This system is a combination of federal and state programs which fund payments to laid-off workers with payroll taxes collected from employers. One major concern about today's UI system is the surprisingly small percentage of unemployed individuals who receive UI benefits. Between 1980 and 1988, the percentage of the unemployed who received benefits fell from 50 percent to 32 percent. This change has already prompted a substantial effort by the Department of Labor to understand and address this problem. Unfortunately the process will take at least two years of data collection and analysis. We strongly endorse this effort and expect that the results of the study will be of great use in resolving the coverage problem. While it would be premature for us to make recommendations on the coverage issue, other important UI issues related to experience rating, employer incentives, and the solvency of state systems can and should be addressed.

The UI system is financed by payroll taxes that are "experience rated"; that is, each firm's tax payments are based on the extent to which its employees use the UI system. The experience rating is, however, incomplete; firms that make heavy use of layoffs have tax obligations that are smaller than the UI benefits paid to workers laid off by those firms. Other firms that use layoffs sparingly have tax obligations that are larger than the UI benefits paid to their laid-off workers. The system results in a subsidy from firms that use layoffs sparingly to firms that make heavy use of layoffs.

The degree of experience rating within each state is determined by the minimum and maximum tax rates set by the state UI system. If a firm is at the maximum tax rate, layoffs will not increase the firm's tax obligation. Hence, firms who are facing the maximum tax rate have an incentive to respond to economic downturns by laying off workers rather than by cutting back on workers' hours. There is substantial evidence that firms at the maximum tax rate do, in fact, tend to use this option; that is, research indicates that our current UI system encourages layoffs.

Another important aspect of the UI system is the fact that employers pay taxes on workers' wages up to a maximum level of earnings, called the tax base. If the tax base is too low, employers have an incentive to substitute smaller numbers of high-skill workers (with high earnings) for larger numbers of low-skill workers (with low earnings). While the magnitude of this incentive is likely to be small, it should, nonetheless, be eliminated.

Finally, a state's choice of a UI tax base and rate schedule affects not only firms' decisions about hiring and laying off workers, this choice also affects the solvency of the state's UI system. Many states rely on tax surcharges to increase their UI solvency, which has the undesirable effect of reducing the degree of experience rating in the system. The preferred alternative is for states to adjust their tax rates and tax base to increase both their fund solvency and their degree of experience rating.

36. ***State Unemployment Insurance systems should be modified to increase the degree of "experience rating" and reduce the risk of fund insolvency. The degree of experience rating can be increased by changing the tax base, tax rates, and other features of state systems (such as non-charged benefits). Measures taken to reduce risks of insolvency should be designed to increase, rather than decrease, the level of experience rating in states. The Unemployment Insurance Service of the Department of Labor should encourage the adoption of such changes by providing technical assistance and by monitoring the degree of experience rating of individual state systems.***

One perennial difficulty in matching workers and jobs is that the job vacancies and the unemployed workers are often in different parts of the country. It is in the public interest to help job seekers explore opportunities in other locations and relocate when necessary. Currently, moving expenses are subsidized through the personal income tax. Despite this subsidization, however, a geographic mismatch of workers and jobs remains.

37. ***The federal government should develop programs to encourage nationwide job search and worker relocation. In particular, these programs should provide residents of each state with information about job openings in other states and develop creative, low-cost measures to provide transportation for job seekers and workers who relocate.***

Immigration is another important factor influencing the operation of the labor market. The current focus of immigration policy is on the humanitarian principles of family reunification and refugee resettlement. During fiscal years 1985–1987, an average of 591,078 immigrants legally entered the United States each year. Fewer than 9 percent of these immigrants entered under worker preferences, which by law are subject to an annual cap of 54,000. In fact, immigrants admitted as workers accounted for less than 4 percent of all immigration because their spouses and unmarried minor children used more than one-half of the available visas in the worker preference categories.

In designing immigration policy, it is important to recognize that long-term market forces are likely to correct labor shortages, even if immigration policies are not adjusted. By using immigration policies to relieve shortages, we may miss the opportunity to draw additional U.S. citizens into the economic mainstream. We should always try, therefore, to train citizens to fill labor shortages. In some cases, however, it may be necessary to draw on foreign workers more heavily than we do today.

38. ***Although our immigration policy should be made more responsive to labor market needs, we must always strive to upgrade the skills of American citizens before we draw on foreign workers to fill shortages. Increased sensitivity to labor market needs should be achieved without compromising the humanitarian objectives of immigration policy. To establish a sound basis for revising immigration policy, the Department of Labor should focus significant research effort on the likely impacts of proposed changes in immigration policy on skills gaps and wage structures.***

WORKER PARTICIPATION AND COMPENSATION

A growing body of evidence indicates that worker productivity can be increased through innovations in employee relations. Programs that allow employees to participate in workplace decisions affecting their jobs appear to have a particularly strong effect on performance and productivity. Financial incentives such as gainsharing and ownership programs give employees a stake in the goals of the firm and can create incentives for employees to advance those goals. Available research suggests that participation, financial incentives, and other innovations are particularly effective when they are introduced as a package.

Work environments that involve a high degree of participation typically have low rates of worker turnover. With greater stability, firms are willing to invest more in the training of their workers, thereby increasing workers' productivity and earnings as well as firms' profits. Increasing worker participation may, therefore, be an essential component in creating a more productive, high-wage economy.

One obstacle to the implementation of participation programs is our lack of knowledge regarding which types of programs are most effective in different contexts. Most of the information we have comes from success stories; we know very little about situations in which the programs have failed. We need carefully designed experiments in a variety of environments where the programs are not introduced as a result of prior problems (or successes) and where the situation before and after can be carefully observed.

Another obstacle that inhibits increased use of participation programs in non-union firms is Section 8(a)(2) of the National Labor Relations Act. This section of the Act creates potential confusion about the legality of participation programs by making it an unfair labor practice for an employer to "dominate or interfere (with) . . . or contribute financial or other support" to a labor organization. A company-sponsored participation program could be considered a labor organization if it addressed terms and conditions of employment and could, therefore, be illegal. Experts at the Department of Labor and elsewhere believe that the potential for litigation in this area has inhibited participation programs.

39. ***The federal government should encourage worker participation by disseminating information on "best practices," by setting an example with participation programs for federal employees, and by clarifying the legality of cooperative programs under the National Labor Relations Act.***

While the structure of employee compensation is, and should be, set by the private sector, the federal government can help to enhance labor market efficiency by providing information on innovative and "best practice" compensation arrangements.

40. ***The Department of Labor should conduct research and disseminate information to help employers and employees explore the promises and problems of innovative compensation plans.***

Pensions and other fringe benefits are an important component of employee compensation. As our workforce has become more mobile, we have become increasingly concerned about the portability of pensions and other fringe benefits.

41. ***The Secretary of Labor should initiate a study of both the opportunities and problems involved in adding portability features to existing public and private pension programs and other fringe benefits.***

Effective relations between labor and management are also an important factor in ensuring workforce quality and labor market efficiency. Many observers believe that our labor laws and policies are an outmoded remnant of an era when adversarial relationships were the norm. These observers also suggest that the present system of labor-management relations and the consequent employment practices impede efforts to develop greater cooperation between labor and management. Questions about the relationship between public policy and labor-management relations are complex and deserve a separate, in-depth examination by a task force of leaders from labor, business (including small business), and government. Among other issues, this task force should address worker participation; ways to restructure the union certification process to reduce litigation and delay; the distinction between mandatory and permissive bargaining topics; and issues concerning the definition of bargaining units.

42. ***The Secretary of Labor should create a tripartite task force to examine labor-management relations and to provide recommendations for public policy.***

4. UNDERSTANDING THE WORKFORCE

It is imperative that our human resource policy be informed by accurate data and careful research. The collection, analysis, and dissemination of information is a traditional and appropriate role of government. Today the Department of Labor, through its Bureau of Labor Statistics (BLS), plays a major role in the federal government's data collection effort. While the quality of data currently collected by the BLS is exceptional, budgetary limitations have constrained the ability of the BLS to develop new data sources in response to emerging needs. The first section of this chapter establishes the pressing need for additional support of the BLS.

In addition to collecting data, both the Departments of Labor and Education conduct and support a broad array of research, evaluation, and information dissemination activities intended to inform public policy and private action. It is essential that these activities be guided by rigorous standards of social science research and that they be carefully focused on the most pressing policy issues. In the second section of this chapter, we make suggestions concerning a human resource research agenda for the 1990s.

LABOR MARKET DATA FOR THE 1990s

Data provided by the BLS are used by the government to implement programs, monitor the economy, allocate funds, and index transfer payments. These data are also used by the private sector for economic planning, collective bargaining, wage administration, and escalation of long-term contracts. Financial markets around the world await the monthly BLS releases to judge the future outlook of the American economy and the likely directions of financial markets.

The data provided by the BLS affect billions of dollars of public and private expenditures. For example, a 1 percent increase in the Consumer Price Index (CPI) leads to increased federal expenditures on entitlement programs and reduced revenues from (indexed) income tax receipts totaling $5 bil.ion. One-half of the U.S. population live in households where income is directly affected by changes in the CPI. Changes in the Producer Price Index can trigger as much as $300 billion worth of changes in long-term contracts. Local area unemployment statistics are important components of formulae which allocate billions of dollars of federal funds to states and local areas. Finally, wage information collected by the BLS affected nearly $40 billion in 1987 funding for Rehabilitation Services, Aid to Families with Dependent Children (AFDC), Medicaid, vocational education, alcohol and drug abuse programs, and mental health services.

The BLS experienced budget reductions in the late 1970s and extremely deep cuts in the early 1980s. As a result, BLS eliminated 19 major data collection programs in 1982 alone. Since that time there has been a series of across-the-board reductions in the BLS budget. In this climate, it has been extremely difficult to undertake new initiatives and to incorporate new methodological improvements into existing programs. Rather, considerable effort has been made simply to protect and preserve the integrity of current data dissemination efforts.

There is a pressing need for quick access to new household survey data. While regular monthly employment surveys are processed very quickly, it takes at least two years to set up, collect, and analyze new household surveys in response to special needs. It is difficult, if not impossible, for policymakers to wait two years for answers to their questions. In recent years the BLS has developed a capability to conduct timely surveys of firms, but resource constraints have prohibited comparable innovation for household surveys. Such surveys would cost $1 million annually, and would cut by one-half the time needed to answer pressing policy questions. This is but one example of an important need that has gone unmet for want of a relatively small amount of money.

43. ***The funding of the data collection and dissemination efforts of the Bureau of Labor Statistics should be significantly increased. New resources should be devoted to the development of quick turnaround household surveys, support of longitudinal data bases, and pilot studies of new data methods. For more specific information on priority initiatives, see Commission background paper #44.***

A HUMAN RESOURCE RESEARCH AGENDA FOR THE 1990s

Quality, nonpartisan labor market research is the best foundation for labor market policy. Absent this research, policy will be based, at best, on intuition and, at worst, on special interests. As a part of our effort to review human resource policy, we commissioned a series of background papers summarizing a broad spectrum of academic and nonacademic research on subjects relevant to our charter. The titles and authors of these papers are listed in Appendix 3. The dearth of reliable information on many important questions frustrated many paper authors and impeded our deliberations.

This paucity of research is due in large part to low levels of government funding for human resource research. Since 1975, inflation-adjusted funding levels for research and evaluation have been cut by 52 percent in the Department of Labor, while those in the Department of Education have been cut by 63 percent. We

believe that it is essential that the Departments of Labor and Education take the lead in addressing this problem by increasing their support of research.

One particularly important focus for their research is the effectiveness of government-funded human resource programs. Policymakers need to know which programs work, which do not, and why. Unfortunately, answering these questions is often expensive and time consuming. For example, the process of evaluating JTPA is expected to cost $20 million and take a total of six years (ending in 1992). This commitment to research is entirely reasonable since the program spends nearly $4 billion each year. One reason for the expense of the JTPA evaluation is the high cost of conducting experiments in which randomly selected individuals participate in a program and are then compared to individuals who are not participants. This experimental approach, modeled on those used in medicine and the physical sciences, has produced most of what little we know about the effectiveness of training programs. Unfortunately, we know even less about the long-run effects of training programs because long-run experiments are particularly expensive and time consuming. Hence, we call for an increased commitment to principles of experimental design in the long-run evaluation of human resource programs.

Another important focus for Department of Labor funded research is to develop a better understanding of emerging labor market trends. The growth in the proportion of minority men with low earnings is an example of an important but poorly understood trend. A better understanding of this, as well as other phenomena, would enable policymakers to design more effective programs for assisting those who are disadvantaged in the labor market.

It is also essential that Department of Labor research focus on the study of private sector labor market innovations by collecting information on which innovations work, which do not, and the conditions under which some work while others do not. The dissemination of this information will allow many organizations to learn from the successes and failures of a few. In some cases the Department of Labor may be able to encourage private initiatives that facilitate measurement of the results of specific innovations (e.g., controlled experiments). In general, the most important factors to be measured are bottom-line effects on productivity, employees' incomes, and employers' profits.

44. ***Research should be viewed as a major component of the missions of both the Departments of Labor and Education and should be funded accordingly. The research agenda should emphasize experimental evaluations of human resource programs, analysis of determinants of the labor market status of the economically disadvantaged, and collection and dissemination of information on best employment practices.***

APPENDICES

APPENDIX 1: COMMISSION CALENDAR

July 11, 1988	Establishment of Commission on Workforce Quality and Labor Market Efficiency by the Secretary of Labor, The Honorable Ann McLaughlin
September 19, 1988	White House Reception for Commissioners with President Ronald Reagan
September 19, 1988	First Commission Meeting, U.S. Department of Labor, Washington, DC
December 6, 1988	Second Commission Meeting, U.S. Department of Labor, Washington, DC
April 4, 1989	Third Commission Meeting, U.S. Department of Labor, Washington, DC
May 2, 1989	Public Hearing, Northlake Community College, Irving, Texas
May 4, 1989	Public Hearing, Indiana World War Memorial, Indianapolis, Indiana
May 9, 1989	Public Hearing, School District of Philadelphia, Philadelphia, Pennsylvania
May 11, 1989	Public Hearing, Best Western Grosvenor, San Francisco, California
May 12-13, 1989	Commission Conference, "International Lessons for U.S. Employment Policy," Institute of Industrial Relations, University of California at Berkeley
June 3-4, 1989	Commission Subcommittee Meetings, Annapolis, Maryland
June 20, 1989	Fourth Commission Meeting, American Red Cross Headquarters, Washington, DC
August 1, 1989	Final Commission Meeting, National Alliance of Business, Washington, DC
Labor Day 1989	Release of Commission Report to the Secretary of Labor, The Honorable Elizabeth Dole

APPENDIX 2: COMMISSION CHARTER

Structure: The commission shall consist of not more than 21 members appointed by the Secretary of Labor and shall include public officials, leading business and union representatives, educators, and other members of the public knowledgeable about human resources. The commission shall be chaired by a person chosen by the Secretary of Labor. If the commission chooses to operate through subcommittees such subcommittees shall present to the commission their findings and recommendations for action by the full commission.

Mission: The commission is charged with making specific recommendations for the Department of Labor and the nation to increase the excellence of the American workforce. To carry out its mission the commission shall have the following direct responsibilities:

1. Examine the roles and effectiveness of privately and publicly provided job training and education.
2. Determine the best mechanisms to keep the education system and training providers continuously informed of the changing skill needs of employers and workers.
3. Consider the problem of financing private investments in human capital and determine the best ways to access financial capital markets for that purpose.
4. Assess the appropriate roles of employers, unions, and government in retraining and relocating dislocated workers.
5. Examine ways in which private and public job placement agencies can enhance the efficiency of the changing labor market of the future.
6. Assess the need for greater flexibility of employers' policies to facilitate labor force entry.
7. Evaluate the opportunities to enhance productivity through alterations of the employment arrangement such as innovative pay systems and benefit structures, employment security provisions, and worker involvement.

The commission shall have such other responsibilities in the field of human resources as the Secretary may deem necessary to fulfill its mission.

Meetings: The commission shall meet at least four times a year at the call of the commission chairperson. Any subcommittees of the commission shall meet at the call of their chairperson with the concurrence of the commission chairperson. Hearings on behalf of the commission may be held by one or more members of the commission with the authorization of the commission chairperson.

Management: The commission shall have an executive director who shall be an academic in the field of human resources. The staff of the commission shall be composed principally of employees of the Department of Labor. The commission is authorized, within the limits of its budget, to contract out such of its work as the commission chairperson deems necessary in order to carry out its mission.

Reports: The commission shall issue a brief report of its work on December 15, 1988. A final report making specific recommendations shall be made at the termination date.

Termination Date: It is anticipated that the commission shall require 12 months to complete its work. The commission shall terminate, in any event, not later than 15 months from the date of this charter.

APPENDIX 3: BACKGROUND PAPERS

The background papers listed below were solicited to assure that the process of developing policy recommendations would be informed by a comprehensive review of literature relevant to the diverse issues the Commission would address. The papers reflect the thoughtful work of leading experts from academic and private research institutions as well as Commission staff. These researchers became our colleagues while transforming disparate sources of information into a base of knowledge for our deliberations on policy. The Commission gratefully acknowledges their effort.

The papers are available in a companion volume to this report titled, *Investing in People: A Strategy to Address America's Workforce Crisis, Background Papers.*

Paper	Author(s)
1. "Incentives for Learning: Why American High-School Students Compare So Poorly to Their Counterparts Overseas"	John Bishop Cornell University
2. "Schooling for the Modern Workplace"	Russell W. Rumberger University of California at Santa Barbara Henry M. Levin Stanford University
3. "Trends in Science and Engineering Education and the U.S. Labor Market"	Michael G. Finn National Research Council
4. "Empowering Schools and Teachers: A New Link to Jobs for the Non-College Bound"	James E. Rosenbaum Northwestern University
5. "Second Chance Basic Skills Education"	Larry Mikulecky Indiana University at Bloomington
6. "The Firm's Decision to Train"	Donald O. Parsons Ohio State University
7a. "Empirical Evidence on Private Training"	Charles Brown University of Michigan
7b. "Evidence on Private Sector Training"	Stephen L. Mangum Ohio State University
7c. "Evidence on Private Sector Training"	William M. Ouweneel IBM Corporation
8a. "Introducing New Technology into the Workplace: The Dynamics of Technological and Organizational Change"	Patricia M. Flynn Bentley College
8b. "Introducing New Technology into the Workplace: Retraining Issues and Strategies"	Greg Kearsley Park Row, Inc.

9.	"Survey of Government-Provided Training Programs"	Burt S. Barnow Lewin/ICF Laudan Y. Aron Lewin/ICF
10.	"The Effectiveness of Government Training Programs"	Margaret C. Simms Joint Center for Political Studies
11.	"Black Male Youth: Their Employment Problems and Training Programs"	Robinson G. Hollister Swarthmore College
12.	"Facilitating the Flow of Information Between the Business and Education Communities"	Jorie W. Philippi Performance Plus Literacy Consultants
13.	"Issues in Financing Post-Secondary Education and Training"	Arthur M. Hauptman Consultant Jamie P. Merisotis Consultant
14.	"The Tax Treatment of Training and Educational Expenses"	John M. Quigley University of California at Berkeley Eugene Smolensky University of California at Berkeley
15.	"The Unemployment Experience of the Workforce"	Jonathan S. Leonard University of California at Berkeley Michael W. Horrigan Bureau of Labor Statistics
16.	"Unemployment Insurance: The Worker's Perspective"	James C. Cox University of Arizona Ronald L. Oaxaca University of Arizona
17.	"Unemployment Insurance Financing, Short-Time Compensation, and Labor Demand"	Daniel S. Hamermesh Michigan State University and National Bureau of Economic Research
18.	"Utilization of Public and Private Job Search Mechanisms: The Experiences of Employers and Employees"	Harry J. Holzer Michigan State University
19.	"The Role of the Employment Service"	Malcolm S. Cohen University of Michigan David W. Stevens University of Missouri at Columbia
20.	"Labor Force Participation of Older Workers"	Richard V. Burkhauser Vanderbilt University Joseph F. Quinn Boston College

21.	"Labor Force Participation and Employment Among Young Men: Trends, Causes, and Policy Implications"	Harry J. Holzer Michigan State University
22.	"Labor Force Participation Among the Economically Disadvantaged"	Robert Moffitt Brown University
23.	"Labor Force Participation Among Disabled Persons"	Monroe Berkowitz Rutgers University Edward Berkowitz George Washington University
24.	"Labor Force Participation of Dual-Earner Couples and Single Parents"	Ellen Galinsky Families and Work Institute
25.	"Cultural Issues Affecting Labor Force Participation"	Harriet Pipes McAdoo Howard University
26.	"Facilitating Women's Occupational Integration"	Deborah M. Figart American University Barbara R. Bergmann American University
27.	"Impact of Child Care on the Bottom Line"	Dana E. Friedman The Conference Board
28.	"Addressing the Supply Problem: The Family Day Care Approach"	Dana E. Friedman The Conference Board
29a.	"Part-Time and Temporary Work"	Rebecca M. Blank Princeton University
29b.	"Temporary Work"	Heidi Hartmann Institute for Women's Policy Research June Lapidus University of Massachusetts at Amherst
30.	"Working Hours Flexibility"	Graham L. Staines Bank Street College of Education
31.	"Mixing Careers and Child Rearing"	Charles S. Rodgers Work/Family Directions, Inc. Francene S. Rodgers Work/Family Directions, Inc.
32.	"The Effects of Mandating Benefits Packages"	Olivia S. Mitchell Cornell University and National Bureau of Economic Research
33.	"Innovative Compensation Systems: Implications for Employers, Unions, and Government"	Michael Schuster Syracuse University
34.	"Employee Ownership Plans"	Robert N. Stern Cornell University

35a.	"Employee Participation, Work Redesign, and New Technology: Implications for Public Policy in the 1990s"	Thomas Kochan Massachusetts Institute of Technology Joel Cutcher-Gershenfeld Michigan State University John Paul MacDuffie Massachusetts Institute of Technology
35b.	"Employee Participation and Involvement"	David I. Levine University of California at Berkeley George Strauss University of California at Berkeley
36.	"Efforts to Solve Quality Problems"	Michael J. Smith University of Wisconsin at Madison Francois C. Sainfort University of Wisconsin at Madison Pascale C. Sainfort University of Wisconsin at Madison Conrad Fung University of Wisconsin at Madison
37.	"Impediments to Innovative Employee Relations Arrangements"	Richard N. Block Michigan State University Benjamin W. Wolkinson Michigan State University
38.	"Cooperative Efforts to Solve Employment Problems"	William N. Cooke University of Michigan
39.	"Current Economic Issues in Employee Benefits"	Stephen A. Woodbury W.E. Upjohn Institute for Employment Research and Michigan State University
40.	"Pre-Employment Testing and Employee Productivity"	Lawrence M. Rudner LMP Associates and American Institutes for Research
41.	"Functional Context Education: Policy and Training Methods from the Military Experience"	Thomas G. Sticht Applied Behavioral & Cognitive Sciences, Inc.
42.	"The Role of Unions in Improving Workforce Quality, Labor Market Efficiency, and Effective Employee Management"	H. Peter Cappelli Commission Staff and University of California at Berkeley
43.	"Employer Training of Work-Bound Youth: An Historical Review and New Results"	Nevzer Stacey Commission Staff and U.S. Department of Education Nabeel Alsalam U.S. Department of Education
44.	"Data Needs for Labor Market Analysis"	Michael W. Horrigan Commission Staff and Bureau of Labor Statistics

APPENDIX 4: PUBLIC HEARINGS

The Commission held public hearings in order to offer a wide spectrum of individuals and organizations the opportunity to provide their views and recommendations on improving the workforce. Hearings were held in Irving, Texas, May 2, 1989; Indianapolis, Indiana, May 4, 1989; Philadelphia, Pennsylvania, May 9, 1989; and San Francisco, California, May 11, 1989. These locations were selected to encourage broad-based participation both with respect to regions of the country and diversity of perspective.

The public was asked to address a number of topics related to workforce quality and labor market efficiency. Among these topics were education and training and their financing and tax treatment, matching workers and jobs, enhancing labor force participation through workplace flexibility, and industrial relations and productivity.

One hundred-sixteen (116) witnesses presented testimony at the hearings. Written statements were submitted by an additional 105 individuals and organizations. The hearings were a rich source of information, providing many new perspectives on the issues in our charter. The Commission expresses its appreciation to the members of the public who shared their thoughts with us.

WITNESSES PRESENTING TESTIMONY

Mark Ahearn
State Director, Representing
The Honorable Dan Coats
United States Senate
State of Indiana
Indianapolis, Indiana

Natalie S. Allen
President
Philadelphia High School Academies, Inc.
Philadelphia, Pennsylvania

James T. Allison
Assistant Superintendent of Public Instruction, and
State Director, Career-Vocational Education
California State Department of Education
Sacramento, California

Pamela O. Anderson
President, Career Resources
North Central Indiana Private Industry Council, Inc.
Peru, Indiana

Deborah Arrindell
Public Policy Director
Wider Opportunities for Women, Inc.
Washington, DC

R. N. Beck
Executive Vice President
Bank of America
San Francisco, California

Marvin E. Berger
Chairman, Pennsylvania State Job Training
Coordinating Council and
President, Rayco Auto Services, Inc.
Media, Pennsylvania

Sally Boofer
Manager of Field Operations, Indiana Program
Green Thumb, Inc.
Seymore, Indiana

Glen Bounds
Provost
Dallas Community College District
Dallas, Texas

John C. Brooks
Commissioner, State of North Carolina
Department of Labor
Raleigh, North Carolina

Judith Brown
Member, Board of Directors
American Association of Retired Persons
Washington, DC

R. M. Brown, III
Chairman
Richmond Private Industry Council, Western Job Training Partnership Association and
Human Resources Director
Kaiser Permanente-Richmond
Richmond, California

Dennis L. Bybee
Chief, Management Information Systems Division
Department of Defense Dependents Schools
Arlington, Virginia

Dale Campbell
Assistant Commissioner for Community Colleges and Technical Institutes
Texas Higher Education Coordinating Board
Austin, Texas

Ralph G. Cantrell
Commissioner
Virginia Employment Commission
Richmond, Virginia

Gloria Carpenter
Chair, Conference Committee
California Employer Council and
Employer Relations Administrator
Simpson Paper Company
San Francisco, California

Meredith L. Carter
Vice President/Dean
Indiana Vocational Technical College, Central Indiana and
Member, Indianapolis Private Industry Council
Indianapolis, Indiana

Perry Chapin
President
South Central Iowa Federation of Labor, AFL-CIO
Des Moines, Iowa

William E. Christopher
Commissioner
Indiana Commission on Vocational and Technical Education
Indianapolis, Indiana

The Honorable Ronald R. Cowell
Pennsylvania State House of Representatives
Harrisburg, Pennsylvania

Larry Crecy
National Caucus and Center on Black Aged, Inc.
Washington, DC

Donald J. Davis
Co-Executive Director
UAW-GM Human Resource Center
Auburn Hills, Michigan

Richard DeLone
President
DeLone, Kahn, & Associates
Philadelphia, Pennsylvania

William E. Earl
Manager, Policy Benefits
American United Life Insurance Co. and
Member, Indianapolis Private Industry Council
Indianapolis, Indiana

Eunice Elton
President
Private Industry Council of San Francisco, Inc.
San Francisco, California

Manfred Emmrich
Director
Employment Security Commission of North Carolina
Raleigh, North Carolina

Dave Farley
Chairman
Pennsylvania Service Delivery Area Association
Pittsburgh, Pennsylvania

Virginia Felstehausen
American Vocational Association
Lubbock, Texas

Happy Fernandez
President
Delaware Valley Child Care Council and
Associate Professor
Temple University
Philadelphia, Pennsylvania

Bob Firenze
Director
Indiana Labor-Management Association
Indianapolis, Indiana

Pamila J. Fisher
Assistant Chancellor of Educational Services
Yosemite Community College District
Modesto, California

Robert Foster
Director of Public Relations
Indiana American Legion
Indianapolis, Indiana

Robert G. Garraty
Executive Director
Pennsylvania MILRITE Council and
Chairman, Public Policy Committee
Consortium for State Labor-Management Initiatives
Harrisburg, Pennsylvania

David J. Gillette
Executive Director
New York State Job Training Partnership Council
Albany, New York

Hugh L. Gordon
Derson Group, Ltd. and
Volunteer, National Alliance of Business
Marietta, Georgia

John J. Grier
Chairman
Pennsylvania Employer Advisory Council
Bristol, Pennsylvania

William D. Grossenbacher
Administrator, Texas Employment Commission and
Interstate Conference of Employment Security Agencies, Inc.
Austin, Texas

Pamela Grosvenor
Chairman
Albuquerque Advisory Committee of Employers
Albuquerque, New Mexico

Cecil Groves
Chancellor
Texas State Technical Institute
Waco, Texas

The Honorable David M. Halbrook
Mississippi State House of Representatives
Jackson, Mississippi

Resse Hammond
Director, Education and Training
International Union of Operating Engineers
Washington, DC

William Hanigan
Vice President, Administration and Personnel
Zagar, Inc.
Cleveland, Ohio

Frederick W. Hansen
Auto Tech Program Director
Youth for Service
San Francisco, California

Walter Hayden
Legislative Director, Indiana Council American Federation of State, County and Municipal Employees
Indianapolis, Indiana

Maryann Haytmanek
Counselor/Coordinator, New Directions Program
Lehigh County Vocational-Technical School
Schnecksville, Pennsylvania

Howard Himmelbaum
Deputy Director
SER—Jobs for Progress
Dallas, Texas

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APPENDIX 5: OUTREACH PROGRAM

The outreach program was an important component of the Commission's fact-finding process. The program involved meetings between senior staff of the Commission and representatives of major labor, business, education, employment and training, advocacy, research, and community-based organizations to discuss the Commission's charge and to become aware of the multitude of perspectives on the issues before us. The meetings were scheduled as an early event on the Commission's calendar to assure that our recommendations benefited from the extensive knowledge and experience of these organizations.

The organizations with whom we met generously shared data, research results, insights, and ideas. The Commission gratefully acknowledges the contributions of these organizations and their representatives.

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The Commission gratefully acknowledges the outstanding contributions of its staff, who labored alongside us during the course of the past year. Under the able leadership of David Crawford and Laurie Bassi, this diverse and accomplished staff made our work both effective and enjoyable.

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